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OWENS-CORNING

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Insulations

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Insulating Wool

TYPE TW-F

For Temperatures to 1000°F.

DESCRIPTION

FIBERGLAS* Insulating Wool, Type TW-F is composed of long, fine fibers of glass formed into a white, light-weight resilient mass in which countless air spaces are entrapped to afford high insulating efficiency in the temperature range from sub-zero to 1000°F. "k" =.27 Btu at 75°F. mean temperature, based on its nominal density of 3 pounds per cu. ft. *(See below)*

PHYSICAL PROPERTIES

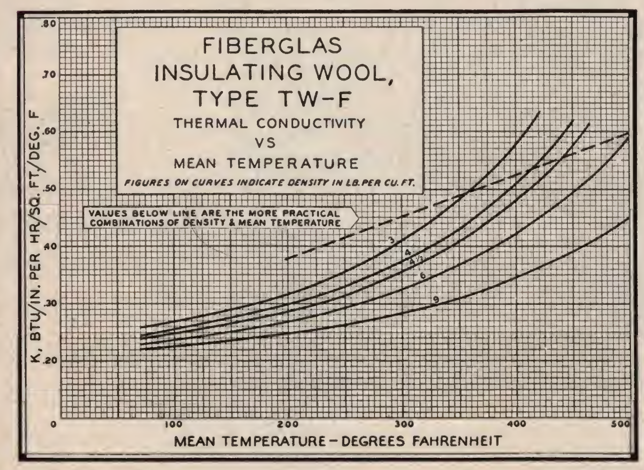
Since these fibers of glass are many times longer than those in other types of mineral wool, Fiberglas Insulation, Type TW-F does not "dust" or disintegrate—tends to expand rather than settle under vibration, making it practical for use at densities that are extremely low. Inorganic (except for small percentage of lubricant); noncombustible; has negligible moisture pick up; will not rot; is noncorrosive to metals in presence of moisture; chemically stable, will withstand repeated wetting, drying and changes in temperature; odorless and, because glass is noncellular, does not absorb odors; provides no sustenance for rodents, insects or other vermin.

FORMS AND USES

Fiberglas Insulating Wool, Type TW-F is produced in the form of blankets having a nominal density of 3 pounds per cu. ft., in thicknesses ranging from ¾" to 3"—cut into BATTS 24" wide and up to 8 feet in length and ROLLS of same width up to 20 feet in length . . . Batts and rolls used to insulate ranges, hotwater heaters, roasters, industrial ovens, processing vats and equipment, trailers, trucks and other rolling stock—in which the insulation is confined between surfaces and need not be self-supporting . . . Also available in BULK and SHREDDED form for use in stuffing, packing and filling irregular-shaped voids, hard-to-reach spaces, joints, etc.

Fiberglas Insulating Wool is fabricated into blankets for thermal and acoustical insulating purposes. (An excellent sound-absorbing material, having a noise reduction factor of from .75 to .95 when suitably installed.) Stitched between facings of Sisalkraft or kraft paper, flameproofed muslin, or cloth woven of Fiberglas Yarn—blankets are made for specific uses in widely diversified fields. Complete information is available.

*FIBERGLAS is the trademark (Reg. U.S. Pat. Off.) for a variety of products made of or with glass fibers by Owens-Corning Fiberglas Corporation.



Extremely Low Thermal Conductivity

This condensed chart shows conductivity ("k") expressed in Btu/sq. ft./hr/inch thickness/°F. temperature difference for various installed densities and mean temperatures. Available are "Selection Charts" that permit the engineer quickly to determine heat losses, thermal efficiencies and cold-surface temperatures for various *thicknesses* and installed densities of Fiberglas Insulating Wool Type TW-F, at hot-surface temperatures from 250° F. to 1000°F.

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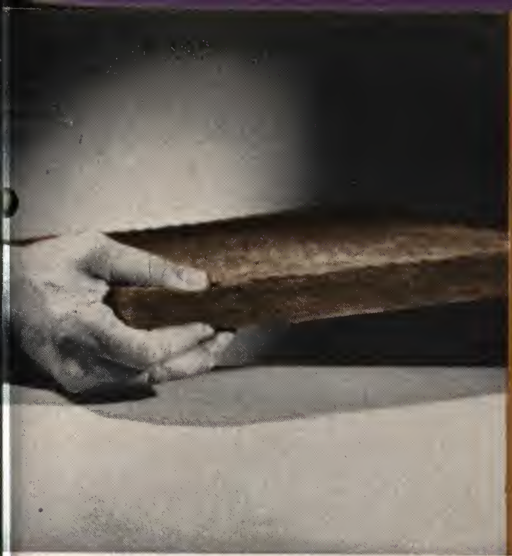
PF (Preformed) INSULATIONS



For Temperatures to 600°F.

BASIC FORMS—Fiberglas PF Insulation is made in eight standard densities, from 2 to 10.5 pounds per cu. ft., and in a wide variety of thicknesses ranging from ¾″ to 4″ depending upon the density. Cut to standard (24″ x 48″) or special sizes.

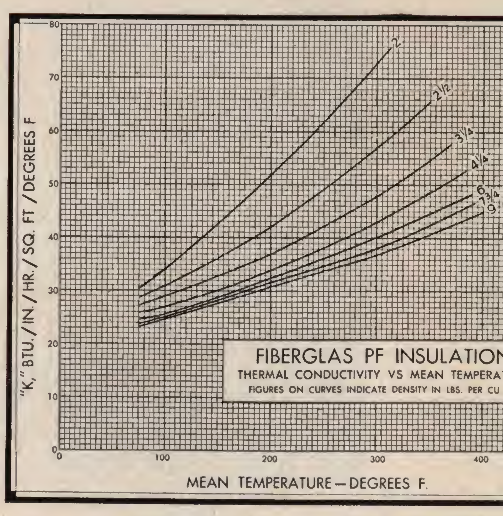
DESCRIPTION

Consists of Fiberglas Insulating Wool, Type TW-F (see opposite page), to which is added a small percentage of thermosetting resin. The insulation is compressed as the resin is cured to form basic materials of predetermined thicknesses, densities and degrees of flexibility and rigidity. Fiberglas PF Insulations have all the thermal and acoustical insulating properties of Type TW-F except that the resin, which is organic, limits uses to temperatures not to exceed 600°F.

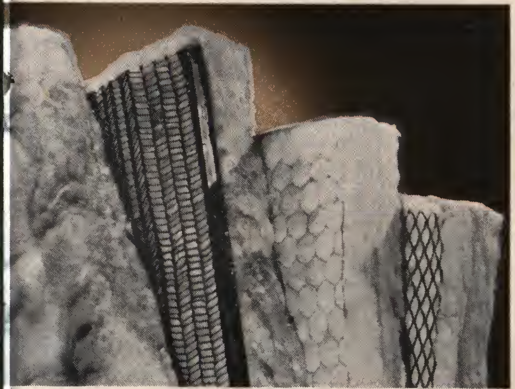
FORMS AND USES

Fiberglas PF Insulations are available in the form of batts or boards in various densities and thicknesses that permit the engineer to select the material having the proper degree of flexibility or rigidity for a specific application. Easily notched, grooved, beveled, or cut into intricate forms and shapes . . . Used in domestic, commercial and industrial low-temperature equipment and appliances; cold storage plants and other buildings; as filler for sandwich-type panels; ship-building, etc.

These basic forms of Fiberglas PF Insulations are further processed or fabricated into materials, described on the following pages.



THERMAL CONDUCTIVITY—The above chart shows conductivity ("k") expressed in Btu/sq. ft./hr/inch thickness/° F. temperature difference for various standard densities and mean temperatures.



METAL MESH BLANKETS

To facilitate application and provide a surface for cement or mastic finishes Fiberglas Insulating Wool, Type TW-F (to 1000°F.) and Fiberglas PF Insulation (to 600°F.) are available in blankets 24″ x 48″ and 24″ x 96″—faced on one or both sides with hexagonal wire mesh or laths of expanded metal, rib or hi-rib . . . The advantages of Fiberglas Type TW-F Wool and PF Insulation are strikingly significant in this application because it *permits the fabrication of insulating blankets with metal facing on one side,* affording a free, resilient surface to conform to any irregularities, such as laps, bolts, and rivet heads, on the insulated surface . . . For insulating boilers, cylinders, ovens, large ducts and breechings, railway tank cars, refinery and other processing equipment.

Insulating Blocks, Insulating and Finishing Cements, O-C Mastic

Supplement the line of Fiberglas Insulations and materials used in application. (Complete data available).

PF (Preformed)
PIPE COVERING

DESCRIPTION—Made of Fiberglas Insulating Wool, Type TW-F, lightly coated with resin, compressed and cured in molds to form hemi-cylinders and segments 3 ft. in length, Standard and Double-Standard thick. For insulating pipes in all standard sizes up to 30″ inclusive, temperatures not to exceed 600°F. Available either with canvas jacket (for normal application) or heavy roofing-felt jacket (for out-of-door application or where insulation may be subjected to occasional wetting).

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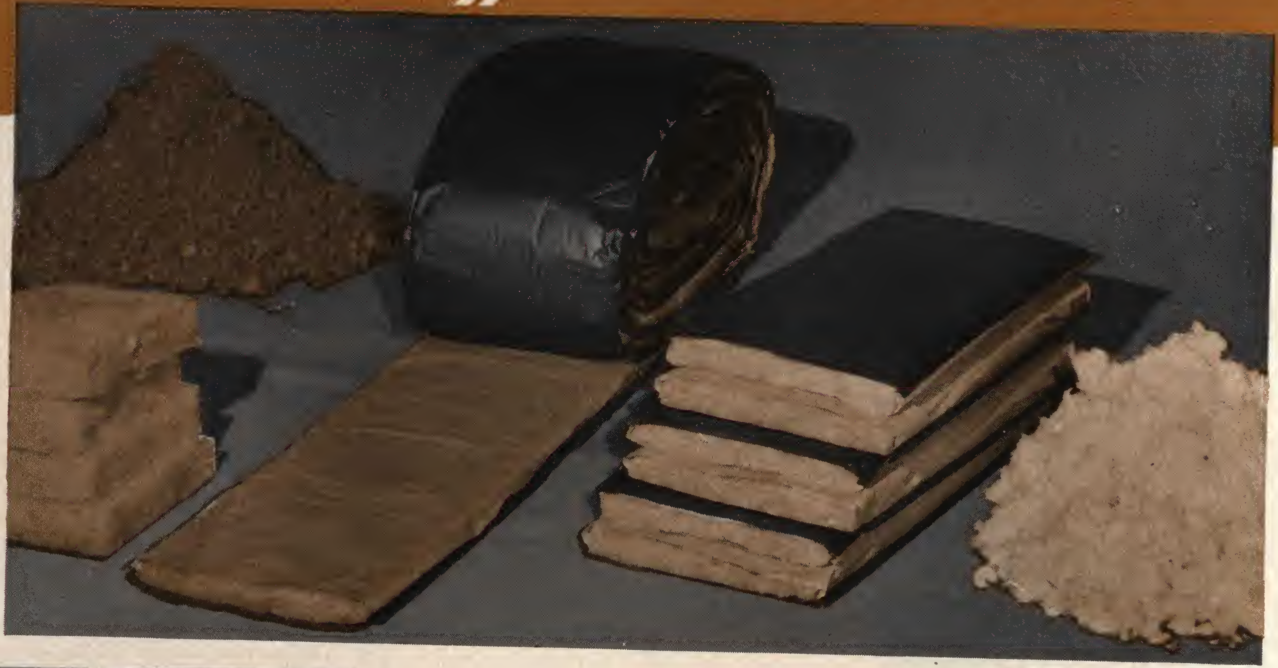
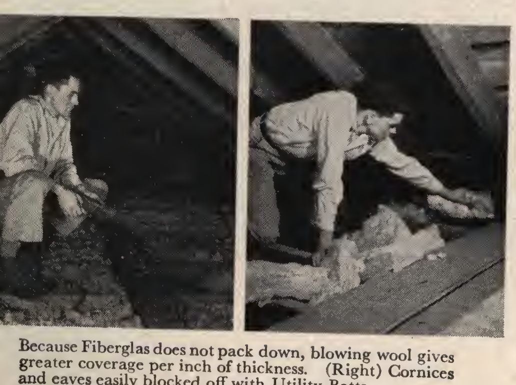
Building Insulation



Nailing flanges ease application of Fiberglas Roll and Batt Blankets to walls and ceilings. Self-contained vapor barriers are an important feature, eliminate one operation.



Because Fiberglas does not pack down, blowing wool gives greater coverage per inch of thickness. (Right) Cornices and eaves easily blocked off with Utility Batts.

A SUPERIOR THERMAL INSULATING MATERIAL FOR APPLICATION IN ALL TYPES OF BUILDINGS

DESCRIPTION

The basic material from which the several forms of Fiberglas Building Insulation are made is composed of a mass of long, fine fibers of glass, lightly bonded together with a thermosetting resin to form a light-weight, resilient blanket in which countless air spaces are entrapped, affording high insulating value . . . For all practical purposes, this basic material is both inorganic and noncombustible (the small percentage of binder will not support combustion); will not rot or corrode; has negligible moisture pick-up; is odorless and does not absorb odors; provides no food for rodents, insects or other vermin . . . Conforms to Federal Specification HH-I-521c—"Insulation, Batt or Strip Form and Loose-Fill"

FORMS

ROLL and BATT BLANKETS—Low-density Fiberglas PF Insulation with an asphalted vapor-resistant paper on one side and a perforated, vapor-permeable paper on the other. The two papers are folded together at the sides of the blanket to form a flange for nailing to frame members. Two widths—for 16″ and 24″ on centers. Three thicknesses—Inch (nominally 1″); Medium (nominally 2″); Thick (nominally 3″). Roll lengths from 20′ to 80′, depending upon widths and thicknesses. Batt sizes—15″ x 24″ and 15″ x 48″ (with nailing flanges for 16″ on centers.)

UTILITY BATTS—Made of Fiberglas PF Insulation, 4″ thick. Have no paper cover or backing. (Vapor barrier paper should be placed on warm side prior to installation of batts).

POURING WOOL—Fiberglas PF Insulation, processed into small pellets for pouring from bag or hand packing.

BLOWING WOOL—Fiberglas PF Insulation, shredded into proper size and form for pneumatic installation with any standard mineral wool blowing machine equipped with a picker.

AVAILABILITY

Fiberglas Building Insulation in the form of *Roll and Batt Blankets, Utility Batts and Pouring Wool* is available locally through lumber and building supply dealers who are served by any of the following distributors: Armstrong Cork Company, Lancaster, Pa.; Certain-teed Products Corporation, Chicago, Ill.; The Flintkote Company, New York City; Kelley Island Lime & Transport Company, Cleveland, Ohio.

Fiberglas Blowing Wool is available in many localities through authorized Fiberglas Applicator-Contractors, experts in this particular branch of insulating residential and light commercial buildings.

NOTE: Complete details are given in a booklet—"Fiberglas Building Insulation in Residential Construction" (20 pages).

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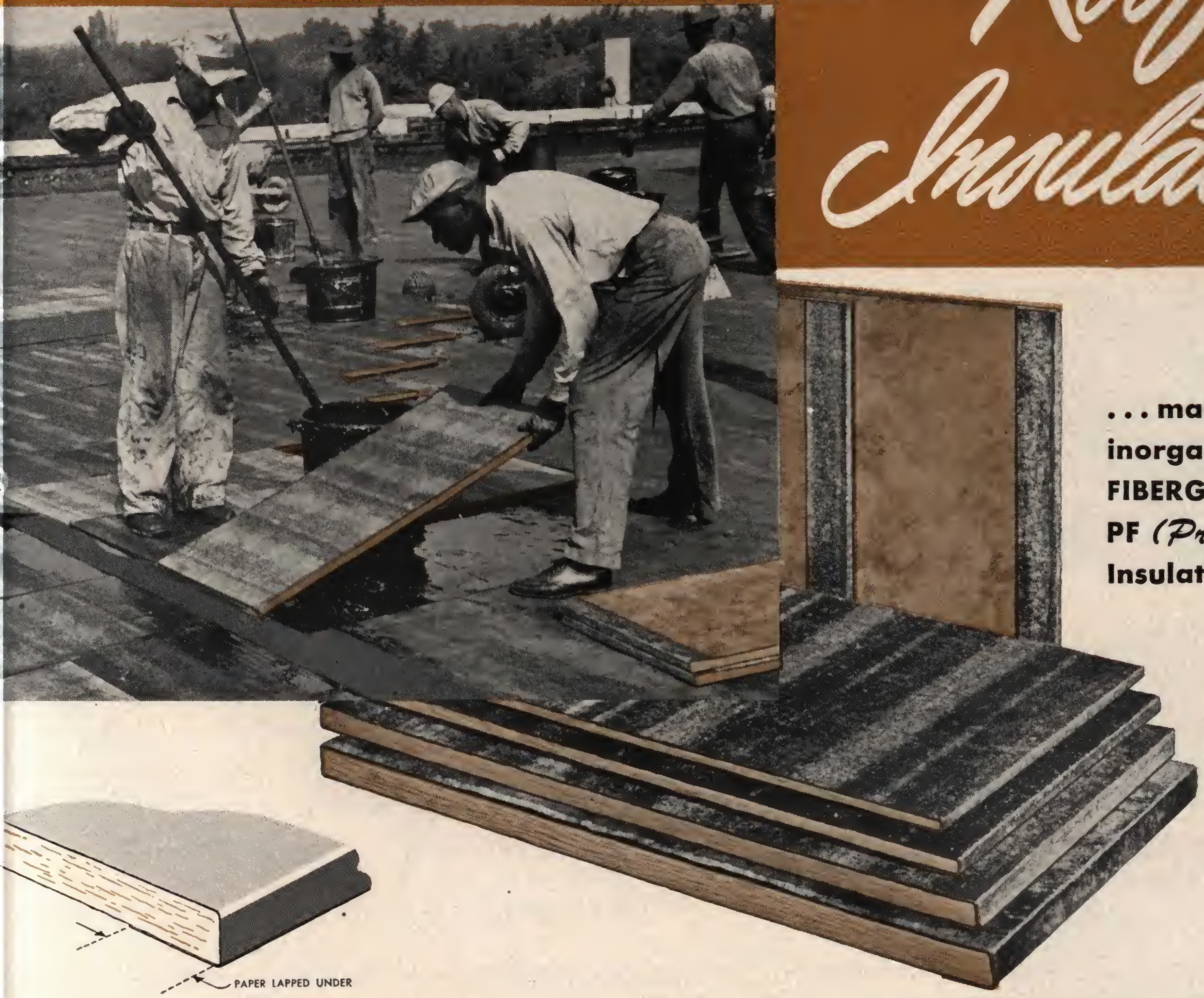
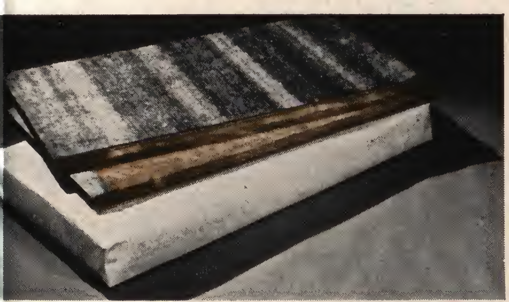
Roof Insulation



. . . made with an inorganic core of FIBERGLAS rigid PF *(Preformed)* Insulating Board

THE LIGHT-WEIGHT ROOF INSULATION FOR EFFICIENCY, ECONOMY, LASTING SATISFACTION



Fiberglas Roof Insulation is made in one standard size—24″ x 48″—and in thicknesses of 9/16″, 13/16″, 1″, 1½″ and 2″. Packaged in paper bundles weighing from approximately 48 lbs. to 54 lbs. each, according to thickness of material.

DESCRIPTION

Rigid Fiberglas PF Insulating Board with mopping surface provided by strong kraft paper adhered with asphalt to top surface and around and under both ends. This permits the use of either asphalt or pitch in the built-up roofing, and supplements the bond strength between the roofing and the deck.

CHARACTERISTICS

The table (right) points out two distinct advantages of Fiberglas Roof Insulation—its high insulating efficiency per inch of thickness, that permits use of minimum thickness for desired results; its comparative light weight, that permits easy handling during application—and imposes no significant dead load on the roof structure.

The insulating core will not rot or decay, and moisture does not materially affect it because the fibers are inorganic.

FIBERGLAS ROOF INSULATION

THICK-NESS Inches	HEAT CONDUCTANCE at 75°F Mean Temp. (Btu/hr/sq. ft./°F)	WEIGHT Lbs. per Square Foot
9/16	.55	.93
13/16	.33	1.15
1	.27	1.31
1½	.19	1.75
2	.13	2.19

All values subject to normal manufacturing tolerances.

Fiberglas Roof Insulation has ample compressive strength and tough surface to withstand normal handling and traffic during installation, inspection and maintenance.

Fiberglas Roof Insulation is installed by standard methods for board-type or block-type materials.

NOTE: Complete data and Specifications are available on this subject for A.I.A. File No. 37.

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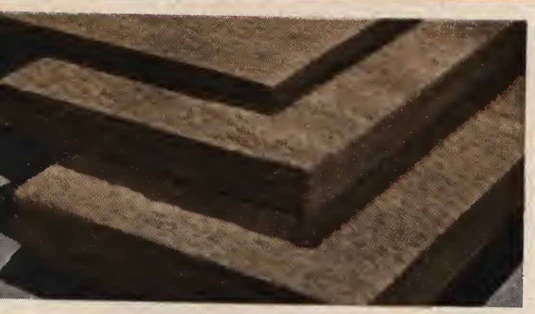
INSULATIONS FOR *Low-Temperature* STRUCTURES



PF *(Preformed)* INSULATION

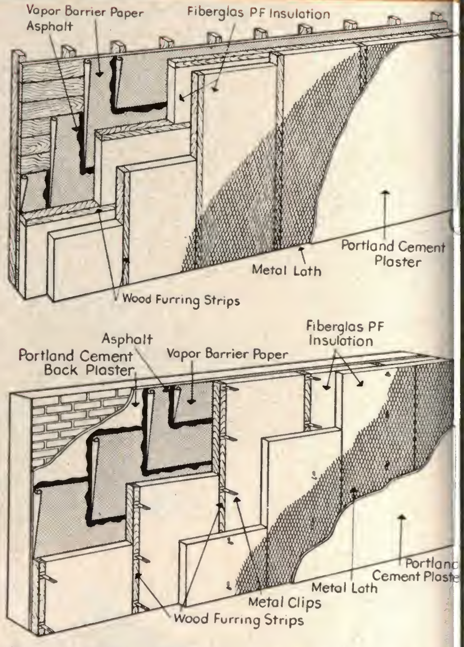
Complete Design Data and Short Application Specifications are available in literature for your A.I.A. File No. 37.

DESCRIPTION

Fiberglas PF (Preformed) Insulation consists of Fiberglas Wool, Type TW-F, to which is added a small percentage of thermosetting resin. The insulation is compressed as the resin is cured to form insulations of predetermined thicknesses, densities and degrees of flexibility and rigidity. Of the ten densities of Fiberglas PF Insulations, the 3¼-lb. density generally is used in low-temperature structures, since it has been found to offer optimum handling qualities and economy in this type of application. A semi-rigid and non-loadbearing material, it is installed between structural supports.

Standard production size of the material is 24″ x 48″—in thicknesses of 2″, 3″ and 4″. While design can generally utilize the pieces at full size, a certain amount of cutting to fit is necessary. Here time is saved, for Fiberglas PF Insulation is easily cut with a knife or hand saw.

Of particular importance is the elimination of heat loss through joints, since the fibers tend to knit themselves together giving the joint insulating efficiency equal to that of the body of the material. Methods for insulating low-temperature structures with Fiberglas PF Insulation conform to those published in Commercial Standards CS105-43.



Showing methods of applying Fiberglas AE Board on wood and masonry walls. Other drawings and informative data are presented in a 32-page manual on this subject.

AE BOARD *(Asphalt-Enclosed)*

Complete Design Data and Short Application Specifications are available in literature for your A.I.A. File No. 37.

DESCRIPTION

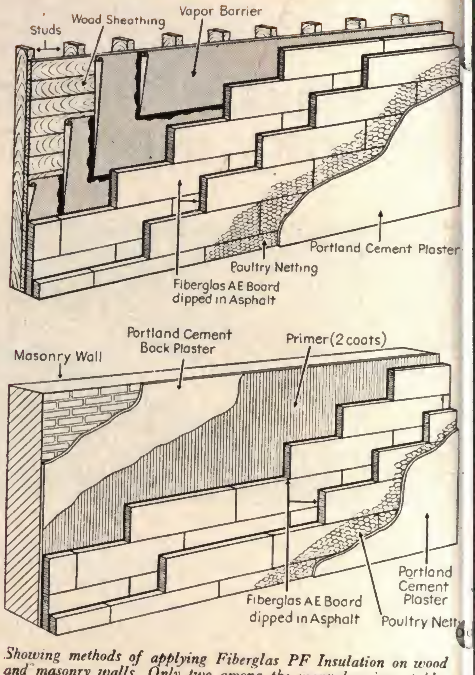
Fiberglas AE Board consists of a core of Fiberglas PF Insulation completely enclosed with a tough, durable, asphalt covering to form a rigid, self-supporting and semi-loadbearing material installed by the asphalt-dip method.

Fiberglas AE Board is made in one standard size, 12″ x 36″, and two types:
AE-9 Board—In which the core consists of Fiberglas PF Insulation having a density of approximately 9 lbs. per cu. ft. Used for floors and for self-supporting partitions up to 14 feet high. Made in thicknesses of 1″, 1½″ and 2″.

AE-6 Board—In which the core consists of Fiberglas PF Insulation having a density of approximately 6 lbs. per cu. ft. Because of its lesser rigidity and loadbearing capacity, AE-6 Board is recommended for insulating ceilings and may be used without structural support for partitions up to 9 feet high. Made in thicknesses of 1″, 1½″, 2″ and 3″.

Fiberglas AE Board may be cut with a knife, a hand saw (wetted in kerosene), or a power saw—the cut edges, exposing the PF Insulation, sealed with hot asphalt before installing.

Methods of installing Fiberglas AE-Board are those used in the application of block-type insulation in low-temperature structures.



Showing methods of applying Fiberglas PF Insulation on wood and masonry walls. Only two among the many drawings, tables and application photographs in a 32-page manual on this subject.

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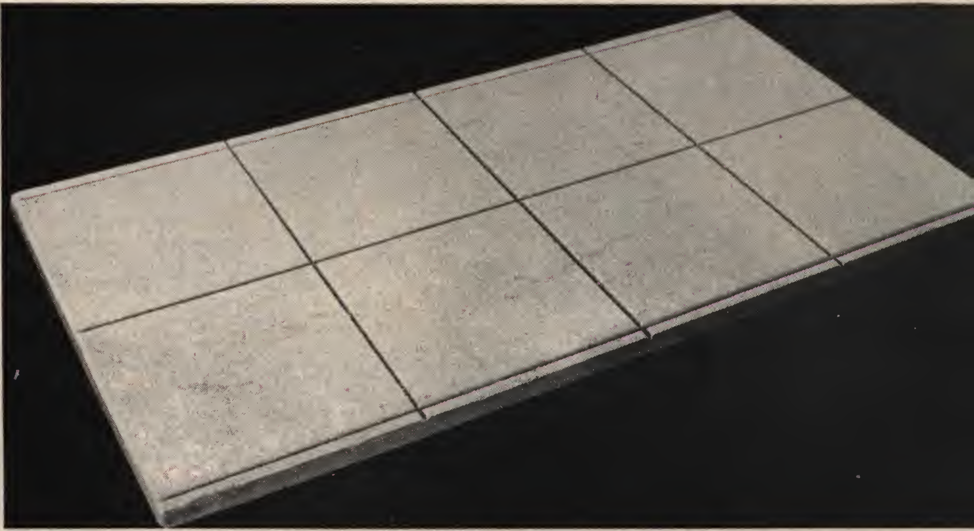
Acoustical Insulations
TILE and BOARD



IBERGLAS

Acoustical Tile

ESCRIPTION

ierglas Acoustical Tile is made of rigid Fiberglas Insulation processed to a felted fiber surface, veled on all edges and painted white . . . The is exceptionally light in weight and provides a safe ceiling of high acoustical value. Fiberglas oustical Tile is available in standard tile sizes, thicknesses of ¾″ and 1″. May be applied by y of a number of methods that are standard ictice in the industry.

FIBERGLAS

Acoustical Board

DESCRIPTION

Fiberglas Acoustical Board is a large-sized acoustical unit, 1″ thick, made of rigid Fiberglas PF Insulation, processed to a felted fiber surface, beveled and/or cross-scored in various standard dimensions to give the appearance of individual tile, with or without selvedge on each long side, painted white. For use with recessed-type fluorescent light troffers, its lightweight eases installation and removal for cleaning and repainting.

OUND ABSORPTION COEFFICIENTS (Acoustical Materials Ass'n Data)

hick ness	Mounting[1]	Cycles 128	256	512	1024	2048	4096	Noise Red. Coefficient	Test No.
¾″	1	.12	.32	.75	.83	.70	.63	.65	A48-2
¾″	2	.08	.44	.79	.83	.74	.65	.70	A48-1
¾″	9	.47	.65	.75	.84	.83	.81	.75	A48-7
1″	1	.11	.31	.79	.94	.84	.79	.70	A48-4
1″	2	.17	.40	.83	.96	.85	.83	.75	A48-3
1″	9	.51	.52	.75	.87	.89	.91	.75	A48-5

[1] Mounting: #1—Cemented to a solid backing.
#2—Nailed to 1″ x 2″ wood furring 12″ o.c
#9—Mechanically mounted to metal furring strips 24″ o c
10½″ from boundary surface of Sound Chamber

Incombustible and Light in Weight

Firesafe—Rated "incombustible" under Federal Specification SS-A-118.

Light Weight—*The lightest weight, incombustible, rigid acoustical material, a square foot 1″ thick weighing less than 1 pound.*

Reaction to Moisture—Exposed to 95% relative humidity at 120°F. for 96 hours—absorbed less than 1% by weight—showed no warping or change of linear dimensions.

Light Reflectivity—Minimum light reflection coefficient of .70.

Rigidity—Material 1″ thick will span 24 inches without sag and without cross support when mechanically installed.

Thermal Insulating Property—Being made of a highly efficient thermal insulating material, Fiberglas Acoustical Tile and Board contribute this desirable feature at no additional cost.

Fiberglas Acoustical Materials are installed by authorized applicators carefully selected for their experience and reputation for high quality of workmanship in this specialized field.

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Superfine INSULATIONS

FIBERGLAS IN ITS FINEST AND LIGHTEST FORM —for thermal and acoustical insulating applications

Series PF-310

DESCRIPTION

An extremely lightweight, resilient, thermal and acoustical insulation consisting of fine Fiberglas fibers averaging .00011" diameter, lightly bonded with a thermosetting resin. Produced in the form of soft, downy blankets, 54" wide and ½" and 1" thick, in two densities: (1) Type PF-314, weighing .5 lbs. per cu. ft. and (2) Type PF-316, weighing 1.0 lbs. per cu. ft. . . . Standard roll lengths: 50′ for ½" thickness and 25′ for 1" thickness . . . Complete data available, giving "k" values at mean temperatures ranging from 50°F. to 300°F.

END USES—The high insulating efficiency per inch of thickness, and its compressibility and resiliency, make this material exceptionally adaptable in applications where space-saving is important—refrigerators, freezers, coolers, air-conditioning units and similar equipment. It is finding wide utility in the automotive field for thermal insulating purposes and sound deadening.

Series PF-320

DESCRIPTION

An extremely lightweight, resilient material made of Fiberglas fibers averaging .00011" dia. lightly bonded with a thermosetting resin and treated with a water-repellent silicone. Produced in the form of soft, downy blankets, 54" wide and 1" thick, in two densities: (1) Type PF-323, weighing .3 lbs. per cu. ft.; (2) Type PF-324, weighing .5 lbs. per cu. ft. Standard rolls contain 25′ of material . . . Complete data available giving "k" values at mean temperatures from 50°F. to 250°F.

END USES—The silicone treatment makes Fiberglas Series PF-320 particularly adaptable to applications in which moisture is encountered. Proved in use as a resilient, non-allergenic, dust-free filler for mattresses, comforters and pillows; as clothing thermal innerliner; as insulation for ice-cube buckets, carrying bags for frozen or hot foods and beverages.

Series PF-100

TYPE PF-105

DESCRIPTION

An extremely lightweight, noncombustible, resilient, thermal and acoustical insulation consisting of Fiberglas fibers in their finest form—averaging .00005" in diameter—very lightly bonded with a thermosetting resin. Produced in the form of soft, downy blankets, ½" thick, 48" and 54" wide, weighing .6 lbs. per cu. ft. Packaged in rolls of 50 lineal feet . . . Sound transmission tests made on all types of Fiberglas Superfine materials fabricated into aircraft blankets, indicate that Type PF-105 Insulation is the equivalent in efficiency to three to four thicknesses of the Series 300 materials described above.

END USES—Military and commercial aircraft. Type PF-105 meets Army-Navy Specifications An-S-32 requirements for flame-resistance and pick-up of water vapor from the air (moisture absorption less than 1% by weight).

FOR MORE INFORMATION ABOUT EACH TYPE AND FORM OF FIBERGLAS

These few pages serve more as a brief introduction to all Fiberglas Insulations rather than as an exhaustive catalog of each material. For complete technical data, information regarding applications other than those mentioned, prices, availability and sources of supply—communicate with any of the Fiberglas Offices listed below.

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